

Patent Claims

1. Method for the automatic manufacture of a glass body for a potentiometric sensor, comprising:

Loading a first spindle of a glass lathe with an outer glass tube and an inner glass tube, wherein the outer glass tube and the inner glass tube are arranged coaxially with one another and with an axis of rotation of the first spindle of the glass lathe, each of the inner glass tube and the outer glass tube has a media-side end, and the two media-side ends are positioned in defined axial positions relative to one another;

loading a second spindle with an auxiliary glass tube, wherein the axis of rotation of the second spindle is arranged coaxially with the axis of rotation of the first spindle;

bringing the auxiliary glass tube into a contiguous relationship with the outer glass tube;

fusion joining the outer glass tube with the auxiliary glass tube, in order to form a combined, outer tube;

producing a connection between the outer tube, composed of the outer glass tube and the auxiliary glass tube, and the inner glass tube;

removing a remainder of the auxiliary glass tube from the outer tube;

producing a media-side opening of the inner glass tube; and

forming a media-side edge of the opening.

2. Method as claimed in claim 1, wherein a glass membrane is automatically blown on the formed, media-side edge of the opening.

3. Method as claimed in claim 1 or 2, wherein the inner glass tube has a dish-, or disk-, like, radial widening on its media-side end.
4. Method as claimed in one of the claims 1 to 3, wherein, following the producing of a connection between the outer tube and the inner tube, and before the removing of the auxiliary glass remainder from the outer tube, a cone is formed at the media-side end of the outer tube.
5. Method as claimed in one of the preceding claims, wherein the producing of the media-side opening includes a blowing-out of the inner glass tube.
6. Method as claimed in one of the preceding claims, wherein the forming of the edge of the media-side opening is effected by means of a tool, which exhibits a ceramic or carbon-fiber material.
7. Method as claimed in one of the preceding claims, wherein the forming of the edge of the media-side opening is monitored and controlled by means of a camera and digital image processing.
8. Method as claimed in one of the preceding claims, wherein the outer glass tube has in its media-side, end section at least one ceramic diaphragm, which is at least partially melted into a media-side end face.
9. Apparatus for performing the method as claimed in one of the preceding claims, comprising a glass lathe having two, coaxial spindles, which are axially movable relative to one another; an automatically controlled burner; a monitoring camera, for monitoring at least one of the above method steps; a temperature sensor for monitoring temperature of sections of the glass tubes to be worked; manipulators for automatic loading of the spindles; and a data processing system, which is functionally coupled with the aforementioned components for receiving measured data from the components and/or for controlling components; and a program memory having a control program for performing the method as claimed in

claims 1 to 9.